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This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-16 (canceled)

17.   (new) A method for merging a plurality of geometric primitives of a same type to form a single geometric primitive of the same type, said method comprising:

deriving a first geometric primitive of the plurality of geometric primitives such that the first geometric primitive references a first group of scanned surface data points from which the first geometric primitive was derived;

deriving a second geometric primitive of the plurality of geometric primitives such that the second geometric primitive references a second group of scanned surface data points from which the second geometric primitive was derived;

creating a new group of points by combining the first group of scanned surface data points, and the second group of scanned surface data points; and

deriving a new geometric primitive using the new group of points, such that the new geometric primitive is of the same type as the first geometric primitive and the second geometric primitive.

18.   (new) The method of claim 17 wherein the first geometric primitive and the second geometric primitive are different parts of a single object.

19.   (new) The method of claim 17 further including:

deriving a third geometric primitive such that the third geometric primitive references a third group of scanned surface data points from which the third geometric primitive was derived;

wherein the creating the new group points includes combining the third group of scanned with the first group of scanned surface data points, and the second group of scanned surface data points; and

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wherein the deriving the new geometric primitive using the new group of points, is such that the new geometric primitive is of the same type as the first geometric primitive and the second geometric primitive and the third geometric primitive.

20.   (new) The method of claim 19 wherein the first geometric primitive and the second geometric primitive and the third geometric primitive are different parts of a single object.

21.   (new) A method for merging two geometric primitives of the same type to form a single geometric primitive of the same type, wherein the two primitives represent portions of a single object and wherein each primitive was derived from a group of points using a fitting process, said method comprising:

creating a new group of points by combining the points used to originally fit each of the two primitives;

fitting the new geometric primitive using a fitting technique and the newly generated point group with points from each of the original primitives to form a single new geometric primitive of the same type to replace the two original primitives; and

wherein the two primitives represent different portions of a surface of the same object, and the new geometric primitive represents the surface of the object which includes the different portions of the surface represented by the two primitives, and a portion of the surface not represented by the two primitives.

22.   (new) A method for merging two geometric primitives of the same type to form a single geometric primitive of the same type, wherein the two primitives represent portions of a single object and wherein each primitive was derived from a group of points using a fitting process, said method comprising:

creating a new group of points by combining the points used to originally fit each of the two primitives; and

fitting the new geometric primitive using a fitting technique and the newly generated point group with points from each of the original primitives to form a single new geometric primitive of the same type to replace the two original primitives; and

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wherein a first primitive of the two primitives is referenced to a first set of points which are part of the group of points, and wherein a second primitive of the two primitives is referenced to a second set of points which are part of the group of points, and in response to a merging request the fitting the new geometric object is performed using the first set of points and the second set of points.

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